Draft Environmental Justice Assessment Summary

In support of the US EPA Region 9 PCB Permit Decision for the Chemical Waste Management Kettleman Hills Facility

Kettleman City, California

February, 2007

INTRODUCTION

In 1997 Chemical Waste Management, Inc., (CWM) and Waste Management, Inc., applied to the United States Environmental Protection Agency Region 9 (US EPA) for a renewal of its permit issued under the Toxic Substances Control Act (TSCA) to continue to store and dispose of polychlorinated biphenyls (PCBs) at the Kettleman Hills facility (KHF) located in Kings County, California. During US EPA's review of the initial permit application, CWM modified its application to request a coordinated approval in 2003. The coordinated approval is a permit issued by US EPA that builds on the existing State of California Department of Toxic Substance Control's (DTSC) RCRA hazardous waste permit.[1] US EPA Region 9 conducted this Draft Environmental Justice (EJ) Assessment in conjunction with its review of the 2003 permit application.

Because community residents and others have raised EJ concerns in the past, US EPA started with a thorough review of community concerns to help guide our evaluation of potential EJ issues in Kettleman City and Avenal. US EPA then used the results of this Draft EJ Assessment during the review of the permit application to help (1) highlight areas for more thorough evaluation under the Toxic Substances Control Act regulations, (2) develop proposed permit conditions, and (3) plan public participation activities. US EPA is soliciting public comment on the Draft EJ Assessment and will consider all comments before finalizing the Draft EJ Assessment and the Draft Permit.

ENVIRONMENTAL JUSTICE ASSESSMENT AND INDICATORS

The method and framework used in this Assessment were based on the EJ Toolkit developed by US EPA's Office of Environmental Justice (OEJ). Consistent with provisions of the US EPA's EJ Toolkit, a situation may pose an environmental justice concern where an action has or may have **both** a "disproportionately high"[2] **and** "adverse"[3] impact on a community. An action that has an adverse effect, for example, would not necessarily trigger environmental justice concerns if it affected many populations equally. For example, the San Joaquin Valley Air Basin violates ozone standards, so ozone may lead to adverse health effects in multiple parts of the Valley, not just in Kettleman City and Avenal. Similarly, a "disproportionately high" impact is not necessarily an environmental justice concern unless it is also adverse.

The EJ Toolkit proposes an overall EJ Assessment methodology and suggests that to be cost-effective and to maximize usefulness, an EJ Assessment should generally follow a tiered approach where it can be conducted in phases, on an as-needed basis. US EPA Region 9 generally followed the framework and the methodology suggested in the EJ Toolkit in conducting this Draft EJ Assessment. The EJ Toolkit recommends conducting EJ Assessments in a tiered approach, where a Screening Level Evaluation ("EJ Screen") is completed first. If the EJ Screen indicates a possible environmental justice concern for which EPA could be of assistance, the Toolkit suggests that US EPA conduct a more Refined EJ Assessment.

[1] The Resource Conservation and Recovery Act (RCRA) of 1976 is the federal law that regulates the generation, transportation, treatment, storage and disposal of hazardous wastes. RCRA is administered primarily by the states, under their own laws, pursuant to authorization from US EPA, which must determine that the state program is *consistent with,* and *no less stringent than* EPA's own hazardous waste program. The State of California's Department of Toxic Substances Control (DTSC) implements RCRA in California.

[2] The EJ Toolkit calls for comparison with a reference community to determine if an impact is "disproportionately high." USEPA, Toolkit for Assessing Potential Allegations of Environmental Injustice ("EJ Toolkit"), 2004, p. 20. The EJ Toolkit serves as a reference guide to assist Agency personnel in assessing potential allegations of environmental injustice and to provide a framework for understanding national policy on environmental justice. http://www.epa.gov/compliance/resources/policies/ej/ej-toolkit.pdf

[3] An indicator can show an "adverse" effect, for example, if exposures are above chemical-specific environmental quality benchmarks for environmental media (e.g. water quality criteria) values for those contaminants. EJ Toolkit, p. 68.

Consistent with the EJ Toolkit, US EPA used the Environmental Justice Geographic Assessment Tool (EJGAT)[4] to conduct an EJ Screen of the community within 5 miles of the Kettleman Hills Facility. The EJ Screen (see Appendix C of the Draft Environmental Justice Assessment) indicated that this is an area of potential EJ concern because four indicators exceeded threshold values, in this case, state average values. Therefore, based on these results and consistent with the EJ Toolkit, US EPA decided to conduct a more Refined EJ Assessment to better understand the economic, social, environmental, and health conditions of the community.

EJ indicators are data from national or state databases that highlight some aspect of current conditions and trends in the environment or within a community or geographic area. They provide information that an EJ assessment can use to supplement, as appropriate, information more specific to the environmental decision being evaluated (e.g., impacts from a facility being sited or permitted).[5] As set forth in the EJ Toolkit, the Refined EJ Assessment evaluates EJ indicators in four categories: environmental, health, economic, and social. Each category of indicators serves a different purpose:

- The **environmental indicators** provide data about the physical attributes of a community, including potential sources of environmental stressors, the relative levels of stressors to which community residents are being exposed, and adverse impacts that may have resulted. The environmental indicators also help US EPA to evaluate the potential for disproportionately high and adverse environmental impacts on the community.

- The **health indicators** provide information on the general health of the community's residents and their ability to cope with environmental stresses. It is usually not possible to conclusively demonstrate whether the existence or cause of increased incidences of diseases is related to exposure to specific contaminants.[6]

- The **social indicators** reveal trends about the general socio-demographic aspects of the community. Social indicators also provide information on the ability of the community to meaningfully participate in the decision-making process.

- The **economic indicators** reveal trends about the community's economic well-being. Assessing income levels is important to an environmental justice assessment because low-income populations may be more vulnerable than the general population to adverse environmental risks and impacts (i.e., because of income-based health disparities).

As Region 9's first attempt to apply the EJ Toolkit to an EJ Assessment, this study examined indicators in a great deal more detail than we would typically expect to do in the future. Region 9 will tailor the scope and depth of future EJ Assessments on a case-by-case basis.

COMMUNITY CONCERNS

As noted above, US EPA selected the specific EJ indicators for this Refined EJ Assessment based, in part, on identified community concerns that were compiled from discussions between community residents and US EPA and from public meetings held by US EPA, the State of California, and Kings County.

[4] The Environmental Justice Geographic Assessment Tool (EJGAT) is a web-based GIS tool that provides information relevant to assessing adverse health or environmental impacts, aggregate or cumulative impacts, unique exposure pathways, vulnerable or susceptible populations, or lack of capacity to participate in decision making process among other conditions. It is available to the public at http://www.epa.gov/compliance/environmentaljustice/assessment.html

[5] EJ Toolkit, page 24

[6] EJ Toolkit, page 41

The community residents expressed concerns in the following categories:

- Air quality
- Emergencies/spills/accidents related to KHF
- KHF compliance record and distrust of CWM and regulatory agencies
- Closure plans for KHF
- Public participation in decisions related to KHF
- Health concerns such as childhood asthma and cancer
- Concerns related to activities outside the boundaries/scope of KHF activities

EJ INDICATORS USED IN THIS REFINED EJ ASSESSMENT

Based on the general categories of concerns expressed by the community, US EPA selected the following EJ indicators for the refined EJ Assessment:

Environmental Indicators

- Density of environmentally-regulated facilities
- Number of Superfund sites
- Number of facilities regulated under the Resource Conservation and Recovery Act (RCRA)
- Number of municipal solid waste landfills
- Number of hazardous waste landfills
- Toxic releases using Toxic Release Inventory (TRI)
- Toxic releases using Risk Screening Environmental Indicators (RSEI) model
- Air toxics cancer risk using National Air Toxics Assessment (NATA)
- Air toxics non-cancer risk using NATA
- Diesel concentration using NATA
- Air quality – particulate matter
- Air quality – ozone
- Drinking water quality
- Pesticide use
- Pesticide producer establishment locations
- Spills of chemicals or hazardous waste within Kings County
- Number of inspections at PCB landfill facilities
- Number of violations at PCB landfill facilities
- Number of formal enforcement actions at PCB landfill facilities

Community Health Indicators

- Access to health care
- Cancer rate
- Asthma hospitalization rate
- Infants born with low birth weight
- Children with elevated blood lead levels
- Infants with birth defects
- Mortality due to motor vehicles

Economic Indicators

- Income level

Social Indicators

- English language ability
- Educational attainment
- Minority population[7,8]

EJ ASSESSMENT FINDINGS

The EJ indicators examined in this Refined EJ Assessment provided a broad picture of the community's environmental, social, economic, and public health conditions. While some of these indicators relate directly to PCB-activities at the KHF facility, many of them are not directly related to such activity. Nevertheless, the EJ Assessment examined these other factors because they help describe the context for the pending TSCA permit application by providing a comprehensive picture of the community's economic, social, environmental, and health conditions. Though TSCA permitting regulations provide limited legal authority to address issues that are not directly related to handling PCBs, these factors are important to demonstrate the potential increased community susceptibility to any potential impacts of PCB activities and to highlight potential barriers to meaningful public participation that US EPA should address.

As set forth in the Toolkit, to evaluate whether a "disproportionately high" impact is present, an analysis must define a community of concern and a reference community with which to compare it. In this case, the communities of concern are Kettleman City and Avenal. US EPA chose these two communities because of their proximity to KHF. For convenience, US EPA will refer to both as the "community of concern" or "community" and to each individually by name. The reference community US EPA chose was dependent on the data available for each indicator, but generally it was the surrounding county, region or State. To determine whether there has been an "adverse" impact, US EPA compared the indicator values to established benchmarks, such as the National Ambient Air Quality Standards. In addition, to evaluate the potential adverse impacts from KHF, US EPA evaluated facility-specific data and risk assessment information.

Based on the Toolkit methodology, US EPA's findings for each of the four categories of indicators is summarized on the following page.

Environmental

The following table summarizes the findings for the environmental indicators. In no case did this EJ Assessment find a potentially adverse impact due to KHF. For three indicators (Air toxics non-cancer hazard, particulate matter, and ozone), however, the EJ Assessment found an overall potential adverse impact due to activities unrelated to KHF. For two indicators, the finding of an overall potential adverse impact was inconclusive. Five indicators showed a potential for a disproportionate impact; however, for each of these indicators the EJ Assessment did not find an adverse impact.

[7] The term minority means a person, as defined by the US Bureau of Census, who is a: (1) Black American (a person having origins in any of the black racial groups of Africa); (2) Hispanic person (a person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race); (3) Asian American or Pacific Islander (a person having origins in any of the original peoples of the Far East, Southeast Asia, and the Indian subcontinent, or the Pacific Islands); or (4) American Indian or Alaskan Native (a person having origins in any of the original people of the North America and maintains cultural identification through tribal affiliation or community recognition.

[8] Race and ethnicity were used for analysis only and was not used as a basis for any actions in this Refined EJ Assessment.

ENVIRONMENTAL INDICATORS FINDINGS				
Environmental Indicators	**Overall Potentially Disproportionate**	**Overall Potentially Adverse**	**Potentially Adverse Due to KHF**	**Overall Potentially Disproportionate and Adverse**
Density of environmentally-regulated facilities	No	No	N/A	No
Superfund sites	No	No	N/A	No
RCRA	No	No	No	No
Municipal solid waste landfills	Yes	No	No	No
Hazardous waste landfills	Yes	No	No	No
TRI	Yes	No	No	No
RSEI	Yes	No	No	No
Air toxics (NATA)	No	No	No	No
Air toxics non-cancer NATA	No	Yes	No	No
Diesel NATA	Inconclusive	Inconclusive	No	Inconclusive
Air quality – particulate matter	No	Yes	No	No
Air quality – ozone	No	Yes	No	No
Drinking water quality	No	No	No	No
Pesticide use	Inconclusive	Inconclusive	No	Inconclusive
Pesticide producer establishment locations	No	No	N/A	No
Spills of chemicals or hazardous waste	Yes	No	No	No
Inspections	No*	N/A	No	No
Violations	No*	N/A	No	No
Formal enforcement actions	No*	N/A	No	No
*For the compliance indicators, the analysis compares KHF with other PCB disposal sites in the nation.				

For the five indicators that showed a potential for disproportionate impact but no adverse impact, because the Draft EJ Assessment found no health impacts associated with these indicators, this EJ Assessment Summary does not contain a description of the findings of these indicators, but the full EJ Assessment contains the details. Because community residents are likely to be interested in more detailed information for the indicators that show a potential for adverse impact, below is a summary of the findings for each of these indicators.

- Both Avenal and Kettleman City have Hazard Index (HI) values above 1 for the indicator on air toxics non-cancer risks (based on the National Air Toxics Assessment). A value of the HI greater than 1 indicates that a potential may exist for adverse non-cancer health effects because the concentration exceeds the amountdetermined to have no adverse health effects. However, the distribution of HI values for the San Joaquin Valley indicates that the highest HI values are associated with more urbanized areas with denser populations. The HI values for Avenal and Kettleman City are among the lowest values for the San Joaquin Valley, thus US EPA finds no disproportionately high impacts for air toxics non-cancer endpoints.

- Although US EPA's National Air Toxics Assessment model did not show disproportionately high concentrations of diesel for the census tracts that contain Kettleman City and Avenal, the model is unable to identify diesel concentrations in the immediate vicinity of any specific source. As documented in the California Air Resources Board's *Air Quality and Land Use Impacts Handbook*,[9] local high-impact areas in a community are possible. Also, US EPA has not yet developed a numerical estimate of cancer potency for diesel. For these reasons, this analysis cannot conclude whether Kettleman City and Avenal experience either adverse or disproportionately high impacts from overall community-wide diesel emissions. However, based on the available information examined in this Refined EJ Assessment, the communities in Kettleman City and Avenal do not appear to experience adverse impacts from the diesel emissions from KHF itself.

- The US EPA has designated the San Joaquin Valley a non-attainment area for PM2.5. Such a designation indicates that the San Joaquin Valley does not currently meet the PM2.5 National Ambient Air Quality Standards (NAAQS). Although San Joaquin Valley is also a non-attainment area for PM10, the PM10 levels did not violate the NAAQS levels from 2003 through 2005. Accordingly, on October 16, 2006, EPA administratively determined, consistent with the Clean Air Act, that the area has attained the PM10 standards.[10] PM2.5 and PM10 modeling of impacts from KHF showed that the communities in Kettleman City and Avenal do not appear to experience adverse impacts resulting from the incremental PM10 and PM2.5 emissions from KHF. Based upon available data examined in this Refined EJ Assessment, US EPA finds (1) a potential for adverse impact from PM2.5, (2) no adverse impact from PM10, and (3) no adverse impact from PM10 and PM2.5 emissions from KHF. In addition, US EPA found no basis to conclude that the PM2.5 air quality impacts are disproportionate compared with other parts of the San Joaquin Valley.

- The US EPA has designated the San Joaquin Valley a non-attainment area for ozone. Such a designation indicates that the San Joaquin Valley does not currently meet the ozone National Ambient Air Quality Standards (NAAQS). Based upon available data examined in this Refined EJ Assessment, US EPA finds a potential for adverse impact from ozone. However, modeling of impacts from KHF showed that the communities in Kettleman City and Avenal do not appear to experience adverse ozone impacts resulting from the activities from KHF itself. In addition, US EPA found no basis to conclude that the ozone air quality impacts are disproportionate. Specifically, US EPA evaluated at air monitoring data and found violations of ozone standards in multiple parts of the San Joaquin Valley, not just in the southwest part of the Valley where Kettleman City and Avenal are located.

- The analysis of Pesticide Use Report data identified potential concerns, but because actual exposure information is not available for this community, US EPA could not determine whether this community has experienced disproportionately high or adverse effects due to pesticides.

Community Health

- The US Department of Health and Human Services has designated Kettleman City and Avenal as Medically Underserved Areas and Health Professional Shortage Areas.[11] The residents in these communities may have less access to health care when compared with the general population. Lack of access to health care means these communities are potentially more vulnerable to environmental impacts. After reviewing the health data for Kettleman City and Avenal, US EPA cannot develop a conclusion about whether health impacts are disproportionately high or adverse for two reasons: (1) the small size of these communities makes

[9] Available at: http://www.arb.ca.gov/ch/handbook.pdf
[10] 71 Federal Register 63642, October 30, 2006.
[11] More information on these designations can be found at: http://bhpr.hrsa.gov/shortage/

detecting statistically significant increases or decreases in disease rates difficult and (2) for many data sources, only county level data is available, and the rates for Kettleman City and Avenal could be higher or lower than the county's rate.

Economic and Social

- Analysis of the economic and social indicators shows that Kettleman City and Avenal are low-income and minority communities. Many of the community residents speak Spanish.

CONCLUSIONS

As stated earlier, consistent with US EPA's EJ Toolkit, a situation may pose an EJ concern when an action has or may have both a "disproportionally high" and "adverse" impact on a community. In this Draft EJ Assessment, US EPA evaluated the potential for disproportionately high impacts to the community of concern by comparing it to a reference community. For adversity, US EPA evaluated both the potential overall adverse impact to the community of concern from multiple sources and the potential adverse impact to the community of concern from KHF. For every indicator related to KHF activities, US EPA evaluated risk and/or modeling information to assess the potential for adverse effects and found no case where KHF causes a potential adverse impact to the community. Thus, based on the indicators analyzed in this Draft EJ Assessment, US EPA has not found evidence that the communities of Kettleman City and Avenal experience adverse impacts from KHF.

However, for the broader community (i.e. potential exposures within Kettleman City and Avenal unrelated to the KHF), risk and modeling information for other activities in the local area is not available. Therefore, US EPA is unable to determine whether or not the communities of Kettleman City and Avenal suffer from environmental justice impacts from activities unrelated to KHF. More specifically, US EPA makes an "inconclusive" finding about whether impacts from diesel and pesticides pose a disproportionately high and adverse impact to the communities of Kettleman City and Avenal.

Based on the analysis of social indicators, US EPA finds that in the community of concern many of the community residents speak Spanish. US EPA has considered this finding in planning public participation activities, and the next section describes the proposed public participation activities.

WHAT IS EPA DOING IN THE PERMITTING PROCESS RELATED TO THE EJ ASSESSMENT?

As noted above, US EPA did not find that activities at KHF adversely impact either Kettleman City or Avenal communities. Nevertheless, US EPA considered information gathered during the EJ Assessment in reviewing the KHF permit application. Specifically, US EPA used its preliminary analysis of the assessment indicators to help highlight areas of concern during the permit application review process. In doing so, US EPA, consistent with its authority under TSCA, proposes the following actions: 1) include proposed permit conditions in the draft permit that increase public health and environmental safeguards, 2) explore ways to better ensure compliance, and 3) improve public participation processes related to issuance of the permit to enhance community involvement.

Human Health and the Environment

The following are some examples of proposed permit conditions that respond to community concerns raised in the EJ Assessment:

1) A "Preparedness, Prevention, and Emergency Response" condition specifies actions necessary to provide a comprehensive approach to emergency preparedness, prevention, and response. The actions include mobilization of on-site and off-site emergency responders. The condition also requires notice of spills and accidents to multiple levels of authorities.

2) An "Air Risk Assessment" condition requires a PCB air risk assessment process that could include sampling to track releases of PCB's both as a gas and associated with windswept dust. This condition will determine if air-borne PCBs are released from the facility.

Please see the full draft permit for a full listing of conditions. Please note, these conditions will only become effective upon issuance of a final permit that contains them, and this EJ Assessment in no way predetermines US EPA's final permit decision on the proposed permit after review of all comments submitted on the permit.

Compliance Monitoring

Over the past five years, the California Regional Water Quality Control Board and California Department of Toxic Substances Control have inspected KHF approximately twice per year and will likely continue to inspect KHF at the same frequency. Under the proposed permit, US EPA will receive reports submitted to the State of California under the state RCRA permit that concern PCB waste-related activities. US EPA will have increased information for reviewing compliance of the facility with TSCA requirements. With this additional information, US EPA intends to increase its monitoring of the facility's compliance with TSCA requirements.

In addition, KHF will continue to be a priority in EPA inspection planning. These inspections normally consist of a review of the daily maintenance reports, incoming and outgoing manifests, monitoring records, and exception reports as well as an inspection of the PCB storage and landfill disposal units. Moreover, US EPA intends to include copies of final inspection reports in the public information repository to the extent permissible under agency law and practice pertaining to the confidentiality of information contained in those reports.

Public Participation

US EPA will take many measures to solicit meaningful participation by community residents in providing comments to the Draft TSCA Permit ("Draft Permit") renewal and the associated Draft EJ Assessment. Below are examples of public participation steps that respond to specific community concerns identified during the EJ Assessment process. These actions go beyond typical public participation efforts in similar situations.

1) US EPA will establish an information repository at the Kettleman City branch of the Kings County Library. The information repository will include the documents (i.e., administrative record) US EPA considered in preparing the Draft Permit. The purpose of the information repository is to make information readily available to people who seek to understand the basis for US EPA's proposal to issue the Draft Permit. US EPA selected an information repository with a location and hours of operation convenient to the community. US EPA intends to occasionally update the repository with reports of interest to the public about PCB waste handling, storage, disposal, and monitoring at the facility. In addition, the draft permit and draft EJ Assessment will be available at the Kings County Library in Avenal and Kettleman City Community Services District.

2) US EPA will make a decision on the Draft Permit after the public has had adequate time to review the proposed action and submit comments and after US EPA has duly considered those comments. The public will have at least 60 days to review and submit written comments. The public may also submit verbal comments during the public hearing. Members of the public can request extensions to this comment period.

3) During the public comment period US EPA will conduct two public meetings and one public hearing. During the public meetings US EPA will explain and discuss the Draft Permit with the public. During the public hearing, US EPA will formally accept comments in English or Spanish on the Draft Permit. US EPA will consider the written and verbal comments before making a decision on the draft TSCA permit.

4) The administrative record for the Draft Permit that US EPA will make available for public review will contain all documents relied upon in making the Final Permit decision at KHF. The community specifically requested that certain documents be made publicly available, such as the US EPA policy on PCB enforcement and the 2005 settlement the facility entered into for monitoring violations under TSCA, and these documents have been included in the administrative record and placed in the information repositories.

5) The US EPA will translate key public meeting materials and meeting announcements into Spanish. In addition, US EPA will provide simultaneous English/Spanish translation at the public meetings and hearing and will write public materials in non-technical language.

PUBLIC COMMENT ON THE EJ ASSESSMENT

The public can give comments on the Draft Permit or Draft EJ Assessment from February 20, 2007, until April 23, 2007. During this public comment period, EPA will hold public workshops in Kettleman City on March 12 and March 27 to discuss the Draft EJ Assessment and Draft Permit with the public. Immediately after the second public workshop, EPA will hold a formal public hearing to collect spoken comments in Spanish or English from the public about the Draft Permit and the Draft EJ Assessment. You can also send written comments to Debbie Lowe (see contact information below).

After US EPA closes the public comment period, we will review and consider all comments for both the Draft EJ Assessment and the Draft Permit, prepare a summary of responses, and make a decision on the Draft Permit. The decision could be to a) issue the Draft Permit as a Final Permit, b) revise the Draft Permit and issue it as a Final Permit, or c) deny the CWM request for a permit. US EPA will also prepare a Final EJ Assessment.

For questions or comments about the Draft EJ Assessment, contact:

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